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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,173	01/30/2004	Uwe Brede	306.43467X00	4701
20457	7590	01/30/2006		
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER RADI, JOHN A	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/767,173	Applicant(s) BREDE ET AL.	
	Examiner John A. Radi	Art Unit 3641	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/9/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 5, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Losey (US 3903803).

Losey teaches a pyromechanical separating element (fig. 9, 49), having a hermetically sealed pyrotechnic pressure element (58), which is installed in a housing (52) and has a gas-forming pyrotechnic charge, and a detachable latching pin (63) which is separated from the pressure element (58) by a driving volume (formed by 53 and 57) and is inserted into the housing, wherein a first securing point is arranged on the housing (fig. 8, whereby the left band 28 is attached to housing 52) and a second securing point is arranged on the latching pin (fig. 8, whereby the right band 28 is attached to the latching pin 63) and is anchored on the housing by way of an arresting and force-limiting element (the engagement of the threads of the screw 63, with the corresponding threads on the housing).

In regards to claim 4, wherein the arresting and force-limiting element is a radial projection on the latching pin that engages into a groove on the housing, see figure 9 wherein the projections on the latching pin are the threads which engage into corresponding threads on the housing.

In regards to claims 5 and 8, wherein arranged on the outer circumference of the latching pin there is a sealing ring which is let into a groove, see figure 9 wherein on the

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outer circumference of latching pin 63, there is a sealing nut (62) which is first let into the groove.

In regards to the Markush group of claim 10, the force limiting element of Losey is a radial projection on the latching pin that engages a groove on the housing as described above with respect to claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

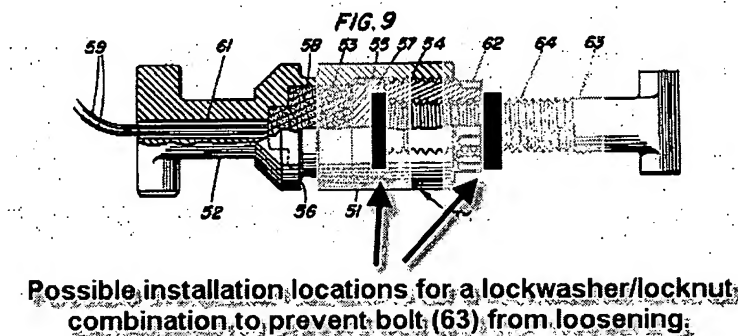
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 3, 6, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Losey (US 3903803) as applied to claim 1 above, and further in view of Beart (US 3072168).

Losey teaches the invention as described above with respect to claim 1, but doesn't teach the use of a crown shaped plate spring to be used as a force-limiting element. Crown shaped plate springs, also known as lock washers, are well known in the art of fasteners and are useful for preventing the rotation and loosening of bolt and nut type assemblies. It would have been obvious to one skilled in the art at the time of invention that a lock washer in combination with a lock nut, as taught by Beart, be used in the exploding bolt invention of Losey so as to prevent the loosening of the latching pin 63 by placing the lock washer and nut on the bolt outside the housing.



In regard to claims 6 and 7, wherein arranged on the outer circumference of the latching pin there is a sealing ring which is let into a groove, see figure 9 of Losey wherein on the outer circumference of latching pin 63, there is a sealing nut (62) which is first let into the groove.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Attached form PTO-892 has a complete listing of patents regarding explosive bolts and pyrotechnic separators. In particular, see Kincheloe et al. (US 3902400) which deals with an explosive blot combination very similar to applicant's invention except with regards to the connection points of the bands which are separated.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Radi whose telephone number is 571-272-5883. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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John A. Radi
Patent Examiner
Art Unit 3641

Michael Carore
SPE 3641